Part I Overview Information

Department of Health and Human Services

Participating Organizations
National Institutes of Health (NIH), (http://www.nih.gov/)

Components of Participating Organizations
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), (http://www.niams.nih.gov/)
National Institute of Child Health and Human Development (NICHD), (http://www.nichd.nih.gov/)
National Institute of Neurological Disorders and Stroke (NINDS), (http://www.ninds.nih.gov/)
Office of Dietary Supplements (ODS), (http://dietary-supplements.info.nih.gov/)

Title: Mentored Clinical Investigator Career Development Awards in Muscle Disease Research

Announcement Type
New

Program Announcement (PA) Number: PA-05-051

Catalog of Federal Domestic Assistance Number(s)
93.846, 93.865, 93.853

Key Dates
Release Date: February 11, 2005
Application Receipt Dates(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Peer Review Date(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Council Review Date(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Earliest Anticipated Start Date: December 1, 2005
Expiration Date: March 2, 2008

Due Dates for E.O. 12372
Not Applicable

Additional Overview Content

Executive Summary

- The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), the National Institute of Child Health and Human Development (NICHD), the National Institute of Neurological Disorders and Stroke (NINDS), and the NIH Office of Dietary Supplements (ODS) are interested in supporting additional career development and mentoring opportunities in muscle disease research. Diseases for this program announcement include, but are not limited to muscular dystrophies such as Duchenne, myotonic and facioscapulohumeral; myotonias and disorders of muscle membranes such as malignant hyperthermia; muscle wasting disorders (e.g. sarcopenia); inflammatory myopathies; and electrolyte disorders.
- Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award will also vary. The total amount awarded and the number of awards will depend upon the mechanism numbers, quality, duration, and costs of the applications received.
- This announcement will use the Mentored Clinical Scientist Development Award (K08) and the Mentored Patient-Oriented Research Career Development Award (K23).
- Eligible organizations include domestic, for-profit and non-profit organizations, public or private institutions such as universities, colleges, hospitals and laboratories.
- Trainees must be citizens or non-citizen nationals of the United States, or have been lawfully admitted to the United States for permanent residence and have in their possession an Alien Registration Receipt Card (I-151 or I-551) at the time of award. Each funding mechanisms has specific requirements for academic degree and/or research program.
- A candidate for the K awards may not concurrently apply for or have an award pending for another NIH career development award.
- Applications should be on the PHS 398 form for Research Career Development Awards. Materials and instructions are available at:

http://grants.nih.gov/grants/funding/phs398/phs398.html
- Telecommunications for the hearing impaired is available at: TTY 301-451-0088

Table of Contents

Part II - Full Text of Announcement

Section I. Funding Opportunity Description

1. Research Objectives

Purpose of this PA

NIAMS, NICHD and NINDS provide career development awards to promising clinically trained applicants with the potential to become productive, independent investigators in basic and/or clinical research of muscular dystrophy and other muscle diseases. This PA is issued in recognition of the urgent need for highly skilled, interactive investigators who are able to integrate various disciplines and levels of expertise to successfully address the increasing challenges in the current research environment of muscular dystrophy and other muscle diseases. This PA calls for applications for mentored career development awards for clinical scientist engaged in laboratory or patient-oriented research. It is expected that these career development programs will increase the number of investigators in basic translational and clinical research on muscular dystrophy and other muscle diseases, and will also increase the quality of their research and training.

Research Objectives

Muscle diseases have a high impact on daily lives, affecting tens of thousands of people's health in the United States alone. Skeletal, smooth and cardiac muscle tissue is a primary target of diseases that affect other organ systems as well. Despite advances in understanding the genetic and molecular defects that cause various types of muscle diseases, this knowledge has not yet resulted in improved treatment strategies. There is a great need to learn more about pathogenesis of the diseases and to improve early detection, diagnosis, treatment, screening and prevention.

In order to assess the state of knowledge and to establish priorities for research in muscle diseases, the NIH has engaged in communication, coordination and reporting activities. The NIAMS, NINDS and the NIH Office of Rare Diseases have sponsored conferences or workshops on the causes and treatments of Facioscapulohumeral muscular dystrophy (FSHD), Duchenne muscular dystrophy (DMD), and Inflammatory Myopathies. NIAMS, NICHD and NINDS brought together a Muscular Dystrophy Research Taskforce, which met in 2002 and 2003 to identify ways to increase the level of understanding of muscular dystrophies and promote advances in diagnosis and treatment. The NIH, participating in the Muscular Dystrophy Interagency Coordinating Committee (MDCC) has developed a Research and Education Plan, which was reported to Congress in 2004. Summaries of these meetings and reports can be found at the following websites:

- FSHD Workshop: http://www.niams.nih.gov/ne/reports/sci_wrk/2000/fshdexsummary.htm
- DMD Workshop: http://www.ninds.nih.gov/news_and_events/proceedings/dmdmtngsummary.htm
- Inflammatory Myopathy Workshop: http://www.niams.nih.gov/ne/reports/sci_wrk/2000/myoreportsummary.htm
- MD Research Taskforce meetings: http://www.niams.nih.gov/ne/reports/sci_wrk/2002/mdmeet.htm; http://www.niams.nih.gov/ne/reports/sci_wrk/2003/mdmeet2003.htm#summary
- MDCC Research and Education Plan: http://www.ninds.nih.gov/find_people/groups/mdcc/index.htm.

NIAMS, NICHD and NINDS are interested in stimulating and supporting research in the muscular dystrophies including Duchenne, myotonic and facioscapulohumeral, consistent with the Research and Education Plan of the MDCC (see website above). In addition to the dystrophies, NIAMS encourages applications from investigators studying myotonias and disorders of muscle membranes such as malignant hyperthermia, muscle wasting disorders (e.g. sarcopenia), inflammatory myopathies, and other genetic muscle diseases such as electrolyte disorders. For a more complete description of specific areas of muscle disease research covered by NIAMS please visit our website at: http://www.niams.nih.gov/rtac/funding/grants/ep4.htm.

Clinical investigators with diverse scientific interests are invited to apply their expertise to enhance our understanding of the pathogenesis and treatment of muscle diseases and disorders. Prior experience of the new investigator in muscle disease or muscle biology research is not necessary, providing that their mentor/sponsor has appropriate expertise. Applicants are encouraged to develop innovative and novel approaches for studying and treating these diseases. Examples that illustrate possible areas of research are presented below. They are intended only to provide a broad direction for research and should be considered illustrative and not restrictive. General examples of appropriate research topics include:

- Studying pathogenic mechanisms leading from gene defects to muscle disease phenotypes;
- Studying the normal structure and function of proteins such as the ryanodine receptor or the dystrophin-glycoprotein complex that are associated with muscle diseases;
- Conducting population-based natural history studies or analyzing comprehensive clinical data sets to aid in prognosis, genetic counseling, designing therapeutic trials, or developing hypotheses about mechanisms of disease;
- Identifying genetic and environmental factors that determine risk or modify disease onset, symptoms, progression or outcome;
- Generating, breeding and studying animal models for the muscle diseases, and utilizing those models in the development and testing of potential therapeutic strategies;
- Studying properties of muscle and non-muscle cells derived from affected tissues;

- Developing, testing and improving strategies for gene delivery or gene repair;
- Exploring the therapeutic use of stem cells and/or tissue engineering;
- Developing, testing and optimizing pharmacological treatment strategies for muscle diseases;
- Developing improved outcome measures and non-invasive methods such as enhanced imaging or analysis of muscle function to monitor changes due to treatment or disease progression;
- Developing and testing new rehabilitative strategies to limit disease progression and prevent secondary complications; and
- Studying the cognitive, behavioral and/or psychosocial aspects of muscle diseases and their relationship to etiology and disease progression;

The field of muscle disease research needs investigators who can integrate various disciplines and levels of expertise to effectively address the increasing level of complexity in the interplay between genetic, environmental and socioeconomic factors in muscle diseases. Investigators must become familiar with the knowledge base and the methods of a wider variety of disciplines than is presently the case. Investigators must develop a different and more diverse set of competencies, including the ability to function effectively in interdisciplinary research teams. Training of clinical scientists in muscle diseases should provide the opportunity to develop these skills and should promote successful research career transitions and pathways. This training will ensure a larger pool of investigators with more diverse expertise that will be prepared to carry out basic, translational and patient-oriented research in muscle diseases.

See Section VIII, Other Information - Required Federal Citations, for policies related to this announcement.

Section II. Award Information

1. Mechanism(s) of Support

This funding opportunity will use the Mentored Clinical Scientist Development Award (K08) and the Mentored Patient-Oriented Research Career Development Award (K23) award mechanism(s). As an applicant, you will be solely responsible for planning, directing, and executing the proposed project.

http://www.niams.nih.gov/rtac/funding/grants/career_awards.htm
http://www.nichd.nih.gov/training/programs.htm
http://www.ninds.nih.gov/funding/grant_mechanisms.htm#Training

Information on selecting the right mechanism can be found at:
http://grants.nih.gov/training/careerdevelopmentawards.htm

Instructions contained in the program announcements for the K08 and K23 mechanisms (available at the links below) should be followed when preparing an application.

MENTORED CLINICAL SCIENTIST DEVELOPMENT AWARD (K08) (http://grants.nih.gov/grants/guide/pa-files/PA-00-003.html)
This mechanism is intended for candidates with a clinical doctoral degree or its equivalent (M.D., D.D.S., D.M.D., D.O., D.C., O.D., N.D., D.V.M., Pharm.D. or Ph.D. in clinical disciplines), who are committed to a career in laboratory or field-based research, and who have the potential to develop into independent investigators. Additional information and detailed requirements for this award mechanism can be found at the website above.

MENTORED PATIENT-ORIENTED RESEARCH CAREER DEVELOPMENT AWARD (K23) (http://grants.nih.gov/grants/guide/pa-files/PA-00-004.html)
This mechanism is intended for candidates with a clinical doctoral degree or its equivalent (M.D., D.D.S., D.M.D., D.O., D.C., O.D., N.D., D.V.M., Pharm.D. or Ph.D. in clinical disciplines), who are committed to a career in patient-oriented research, and who have the potential to develop into productive clinical investigators. Candidates also must have completed their clinical training, including specialty and, if applicable, subspecialty training prior to receiving an award. However, candidates may submit an application prior to the completion of clinical training. "Patient-oriented" research is defined by a direct interaction between the investigator and the human subject. This includes studies of the mechanisms of human diseases, therapeutic interventions, clinical trials and development of new technologies, as well as epidemiologic, behavioral, outcomes or health services research. Additional information and detailed requirements for this award mechanism can be found at the website above.

These funding opportunities use just-in-time concepts.

2. Funds Available

- The number of awards and the total amount of funding that NIAMS, NICHD, NINDS and ODS expect to award through this announcement will depend on the number and types of applications and quality of the applications.
- These awards provide salary, fringe benefits, and research expenses. Contact the institute program officials listed in Section VII for

limits on the amount of salary and expenses that can be requested.
- The duration of each award is three to five years.
- Standard anticipated start dates apply. (See: http://grants.nih.gov/grants/funding/submissionschedule.htm)

Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award will also vary. Although the financial plans of the IC(s) provide support for this program, awards pursuant to this funding opportunity are contingent upon the availability of funds and the receipt of a sufficient number of meritorious applications.

Facilities and administrative costs requested by consortium participants are not included in the direct cost limitation, see http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-004.html.

Section III. Eligibility Information

1. Eligible Applicants

1.A. Eligible Institutions

You may submit (an) application(s) if your domestic institution/organization has any of the following characteristics:

- For-profit or non-profit
- Public or private institutions, such as universities, colleges, hospitals, and laboratories
- Foreign institutions are not eligible to apply

1.B. Eligible Individuals

Any individual with the skills, knowledge, and resources necessary to carry out the proposed research is invited to work with their institution to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for NIH programs.

Candidates must be U.S. citizens or non-citizen nationals, or must have been lawfully admitted for permanent residence by the time of award. Individuals admitted for permanent residence must be able to produce documentation of their immigration status such as an Alien Registration Receipt Card (I-151 or I-551) or some other verification of legal admission as a permanent resident. Non-citizen nationals, although not U.S. citizens, owe permanent allegiance to the U.S. They are usually born in lands that are not states but are under U.S. sovereignty, jurisdiction, or administration. Individuals on temporary or student visas are not eligible for this award.

Ineligible individuals include current and former principal investigators on NIH research project (R01), FIRST Awards (R29), comparable career development awards (K01, K07, K08, K23), sub-projects of program project (P01) or center grants (P50), and the equivalent. Former principal investigators of NIH Small Grants (R03) or Exploratory/Developmental Grants (R21) remain eligible. Current and former recipients of Clinical Associate Physicians Award (CAP) support may apply for the K08 provided they have had no more than 3 years of CAP support by the time of the K08 award. The combined total of CAP plus K08 support must not exceed 6 years. A candidate for the K08 may not concurrently apply for or have an award pending for a CAP award or any other NIH career development award. K08 recipients are encouraged to apply for independent research grant support during the period of this award.

These funding mechanisms have specific requirements for academic degree and/or research program. Furthermore, provisions of the award depending on the institute. For more information, contact the institute program officials listed in Section VII, or visit the institutes' training and career development web sites:

http://www.niams.nih.gov/rtac/funding/grants/career_awards.htm
http://www.nichd.nih.gov/training/programs.htm
http://www.ninds.nih.gov/funding/grant_mechanisms.htm#Training.

2. Cost Sharing or Matching

Cost sharing is not required.

The most current Grants Policy Statement can be found at:
http://grants.nih.gov/grants/policy/nihgps_2003/nihgps_Part2.htm#matching_or_cost_sharing.

3. Other-Special Eligibility Criteria

Candidates may not concurrently apply for, or have pending, more than one NIH career development application at a time.

Section IV. Application and Submission Information

1. Address to Request Application Information

The PHS 398 application instructions are available at http://grants.nih.gov/grants/funding/phs398/phs398.html in an interactive format. Applicants must use the currently approved version of the PHS 398. For further assistance contact GrantsInfo, Telephone (301) 435-0714, Email: GrantsInfo@nih.gov.

Telecommunications for the hearing impaired: TTY 301-451-0088.

2. Content and Form of Application Submission

Applications must be prepared using the most current PHS 398 research grant application instructions and forms. Applications must have a D&B Data Universal Numbering System (DUNS) number as the universal identifier when applying for Federal grants or cooperative agreements. The D&B number can be obtained by calling (866) 705-5711 or through the web site at http://www.dnb.com/us/. The D&B number should be entered on line 11 of the face page of the PHS 398 form.

The title and number of this funding opportunity must be typed on line 2 of the face page of the application form and the YES box must be checked.

3. Submission Dates and Times

Applications must be mailed on or before the receipt date described below (Section IV.3.A). Submission times N/A.

3.A. Receipt, Review and Anticipated Start Dates

Application Receipt Dates(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Peer Review Date(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Council Review Date(s): Standard dates apply, please see http://grants.nih.gov/grants/funding/submissionschedule.htm for details.
Earliest Anticipated Start Date: December 1, 2005

3.A.1. Letter of Intent

A letter of intent is not required for these funding opportunities.

3.B. Sending an Application to the NIH

Applications must be prepared using the PHS 398 research grant application instructions and forms as described above. Submit a signed, typewritten original of the application, including the checklist, and five signed photocopies in one package to:

Center for Scientific Review
National Institutes of Health
6701 Rockledge Drive, Room 1040, MSC 7710
Bethesda, MD 20892-7710 (U.S. Postal Service Express or regular mail)
Bethesda, MD 20817 (for express/courier service; non-USPS service)

3.C. Application Processing

Applications must be submitted on or before the application receipt dates described above (Section IV.3.A.) and at http://grants.nih.gov/grants/dates.htm. Upon receipt, applications will be evaluated for completeness by CSR.

The NIH will not accept any application in response to this funding opportunity that is essentially the same as one currently pending initial review unless the applicant withdraws the pending application. The NIH will not accept any application that is essentially the same as one already reviewed. This does not preclude the submission of a substantial revision of an application already reviewed, but such application must include an Introduction addressing the previous critique.

Although there is no immediate acknowledgement of the receipt of an application, applicants are generally notified of the review and funding assignment within eight (8) weeks.

4. Intergovernmental Review

This initiative is not subject to intergovernmental review.

5. Funding Restrictions

All NIH awards are subject to the terms and conditions, cost principles, and other considerations described in the NIH Grants Policy Statement. The Grants Policy Statement can be found at http://grants.nih.gov/grants/policy/policy.htm (see also Section VI.3. Reporting).

Pre-Award Costs are allowable. A grantee may, at its own risk and without NIH prior approval, incur obligations and expenditures to cover costs up to 90 days before the beginning date of the initial budget period of a new or competing continuation award if such costs: are necessary to conduct the project, and would be allowable under the grant, if awarded, without NIH prior approval. If specific expenditures would otherwise require prior approval, the grantee must obtain NIH approval before incurring the cost. NIH prior approval is required for any costs to be incurred more than 90 days before the beginning date of the initial budget period of a new or competing continuation award.

The incurrence of pre-award costs in anticipation of a competing or non-competing award imposes no obligation on NIH either to make the award or to increase the amount of the approved budget if an award is made for less than the amount anticipated and is inadequate to cover the pre-award costs incurred. NIH expects the grantee to be fully aware that pre-award costs result in borrowing against future support and that such borrowing must not impair the grantee's ability to accomplish the project objectives in the approved time frame or in any way adversely affect the conduct of the project. See NIH Grants Policy Statement http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_Part6.htm.

6. Other Submission Requirements

Not applicable

Plan for Sharing Research Data

A plan for sharing research data is not required. If a plan is included, the precise content of the data-sharing plan will vary, depending on the data being collected and how the investigator is planning to share the data. Applicants who are planning to share data may wish to describe briefly the expected schedule for data sharing, the format of the final dataset, the documentation to be provided, whether or not any analytic tools also will be provided, whether or not a data-sharing agreement will be required and, if so, a brief description of such an agreement (including the criteria for deciding who can receive the data and whether or not any conditions will be placed on their use), and the mode of data sharing (e.g., under their own auspices by mailing a disk or posting data on their institutional or personal website, through a data archive or enclave). Investigators choosing to share under their own auspices may wish to enter into a data-sharing agreement. References to data sharing may also be appropriate in other sections of the application.

Sharing Research Resources

NIH policy requires that grant awardee recipients make unique research resources readily available for research purposes to qualified individuals within the scientific community after publication (NIH Grants Policy Statement http://grants.nih.gov/grants/policy/nihgps_2003/index.htm and http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_Part7.htm#_Toc54600131). Investigators responding to this funding opportunity should include a plan for sharing research resources addressing how unique research resources will be shared or explain why sharing is not possible.

The adequacy of the resources sharing plan and any related data sharing plans will be considered by Program staff of the funding organization when making recommendations about funding applications. The effectiveness of the resource sharing will be evaluated as part of the administrative review of each non-competing Grant Progress Report (PHS 2590, http://grants.nih.gov/grants/funding/2590/2590.htm). See Section VI.3. Reporting.

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process.

2. Review and Selection Process

Applications submitted for this funding opportunity will be assigned to the ICs on the basis of established PHS referral guidelines.

Appropriate scientific review groups convened in accordance with the standard NIH peer review procedures (http://www.csr.nih.gov/refrev.htm) will evaluate applications for scientific and technical merit.

As part of the initial merit review, all applications will:

- Undergo a selection process in which only those applications deemed to have the highest scientific merit, generally the top half of applications under review, will be discussed and assigned a priority score.
- Receive a written critique
- Receive a second level of review by the appropriate national advisory council or board

The following will be considered in making funding decisions:

- Scientific merit of the proposed project as determined by peer review
- Availability of funds
- Relevance of program priorities

The goals of NIH supported research are to advance our understanding of biological systems, to improve the control of disease, and to enhance health. In their written critiques, reviewers will be asked to comment on each of the following criteria in order to judge the likelihood that the proposed research will have a substantial impact on the pursuit of these goals. Each of these criteria will be addressed and considered in assigning the overall score, weighting them as appropriate for each application. Note that an application does not need to be strong in all categories to be judged likely to have major scientific impact and thus deserve a high priority score. For example, an investigator may propose to carry out important work that by its nature is not innovative but is essential to move a field forward.

Review criteria for K08:

Candidate

- Quality of the candidate's academic and clinical record;
- Potential to develop as an independent researcher; and
- Commitment to a research career.

Career Development Plan

- Appropriateness of the content, the phasing, and the proposed duration of the career development plan for achieving scientific independence;
- Consistency of the career development plan with the candidate's previous training and career goals; and
- Likelihood that the plan will contribute substantially to the achievement of scientific independence.

Training in the Responsible Conduct of Research

- Quality of the proposed training in the responsible conduct of research.

Research Plan

- Reviewers recognize that applicants will have variable amounts of previous research experience. Those with limited research experience are less likely to be able to prepare a research plan with the breadth and depth of that submitted by a more experienced investigator. All applications must include a fundamentally sound research plan but reviewers will consider the applicant's prior research experience in judging the level of detail provided.
- Scientific and technical merit of the research question, design and methodology;
- Relevance of the proposed research to the candidate's career objectives;
- Appropriateness of the research plan to the stage of research development and as a vehicle for developing the research skills described in the career development plan; and
- Adequacy of the plan's attention to children, gender and minority issues when human subjects are involved.

Mentor/Co-Mentor

- Appropriateness of mentor(s) research qualifications in the area of this application;
- Quality and extent of mentor(s) proposed role in providing guidance and advice to the candidate;
- Previous experience in fostering the development of researchers;
- History of research productivity, and
- Adequacy of support for the proposed research project.

Environment and Institutional Commitment

- Adequacy of research facilities and training opportunities;
- Quality and relevance of the environment for scientific and professional development of the candidate;
- Applicant institution's commitment to the scientific development of the candidate and assurances that the institution intends the candidate to be an integral part of its research program; and
- Applicant institution's commitment to an appropriate balance of research and clinical responsibilities including the level of 75 percent effort proposed by the candidate.

Review criteria for K23:

Candidate

- Quality of the candidate's academic and clinical record,
- Potential to develop as an independent clinical researcher focusing on patient-oriented research;
- Commitment to a career in patient-oriented research.

Career Development Plan

- Likelihood that the career development plan will contribute substantially to the scientific development of the candidate;
- Appropriateness of the content and duration of the proposed didactic and research phases of the award; and
- Consistency of the career development plan with the candidate's career goals and prior research experience.

Training in the Responsible Conduct of Research

- Quality of the proposed training in responsible conduct of research.

Research Plan

- Reviewers recognize that an individual with limited research experience is less likely to be able to prepare a research plan with the breadth and depth of that submitted by a more experienced investigator. Nevertheless, a fundamentally sound research plan must be provided. For candidates who require substantial didactic training as part of their program, the research plan may cover less than the full period of the award.
- Scientific and technical merit of the research question, design and methodology;
- Relevance of the proposed research to the candidate's career objectives; and
- Appropriateness of the research plan to the stage of research development and as a vehicle for developing the research skills as described in the career development plan;
- Adequacy of the plan's attention to gender and minority issues associated with projects involving human subjects.
- Adequacy of plans for including children, as appropriate, for the scientific goals of the research, or justification for exclusion.

Mentor/Co-Mentor

- Appropriateness of mentor(s) research qualifications in the area of this application;
- Quality and extent of mentor's proposed role in providing guidance and advice to the candidate;
- Previous experience in fostering the development of more junior researchers;
- History of research productivity and support; and
- Adequacy of support for the proposed research project.

Environment and Institutional Commitment

- Adequacy of research facilities and the availability of appropriate educational opportunities;
- Quality and relevance of the environment for scientific and professional development of the candidate;
- Applicant institution's commitment to the scientific development of the candidate and assurances that the institution intends the candidate to be an integral part of its research program; and
- Applicant institution's commitment to an appropriate balance of research and clinical responsibilities including the commitment of 75 percent of the candidate's effort to research and research related activities.

2.A. Additional Review Criteria:

Responsible Conduct of Research: Applications must include a description of a program to provide formal or informal instruction in

scientific integrity or the responsible conduct of research. Applications without plans for instructions in the responsible conduct of research will be considered incomplete and may be returned to the applicant without review. Although the NIH does not establish specific curricula or formal requirements, all programs are encouraged to consider instruction in the following areas: conflict of interest, responsible authorship, policies for handling misconduct, policies regard the use of human and animal subjects, and data management. Applicants must follow the application instructions (page 49) and refer to the NIH web site (http://www.nih.gov/sigs/bioethics/researchethics.html) for additional guidance.

In addition to the above criteria, the following items will continue to be considered in the determination of scientific merit and the priority score:

Protection of Human Subjects from Research Risk: The involvement of human subjects and protections from research risk relating to their participation in the proposed research will be assessed (see the Research Plan, Section E on Human Subjects in the PHS Form 398).

Inclusion of Women, Minorities and Children in Research: The adequacy of plans to include subjects from both genders, all racial and ethnic groups (and subgroups), and children as appropriate for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated (see the Research Plan, Section E on Human Subjects in the PHS Form 398).

Care and Use of Vertebrate Animals in Research: If vertebrate animals are to be used in the project, the five items described under Section F of the PHS Form 398 research grant application instructions will be assessed.

2.B. Additional Review Considerations

Budget: Justification of the requested budget in relation to career development goals and research aims.
The priority score should not be affected by the evaluation of the budget.

2.C. Sharing Research Data
A data sharing plan is not required.

2.D. Sharing Research Resources

NIH policy requires that grant awardee recipients make unique research resources readily available for research purposes to qualified individuals within the scientific community after publication (See the NIH Grants Policy Statement http://grants.nih.gov/grants/policy/nihgps/part_ii_5.htm#availofrr and http://ott.od.nih.gov/newpages/rtguide_final.html). Investigators responding to this funding opportunity should include a sharing research resources plan addressing how unique research resources will be shared or explain why sharing is not possible.

The adequacy of the resources sharing plan will be considered by Program staff of the funding organization when making recommendations about funding applications. Program staff may negotiate modifications of the resource sharing plans with the awardee before recommending funding of an application. The final version of the resource sharing plans negotiated by both will become a condition of the award of the grant. The effectiveness of the resource sharing will be evaluated as part of the administrative review of each non-competing Grant Progress Report (PHS 2590). See Section VI.3. Reporting.

3. Anticipated Announcement and Award Dates
Not applicable

Section VI. Award Administration Information

1. Award Notices

After the peer review of the application is completed, the Principal Investigator will also receive a written critique called a Summary Statement.

If the application is under consideration for funding, NIH will request "just-in-time" information from the applicant. For details, applicants may refer to the NIH Grants Policy Statement Part II: Terms and Conditions of NIH Grant Awards, Subpart A: General (http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_part4.htm).

A formal notification in the form of a Notice of Grant Award (NGA) will be provided to the applicant organization. The NGA signed by the grants management officer is the authorizing document.

Selection of an application for award is not an authorization to begin performance. Any costs incurred before receipt of the NGA are at the recipient's risk. These costs may be reimbursed only to the extent considered allowable pre-award costs. See Also Section IV.5. Funding Restrictions.

The Notice of Grant Award will be sent electronically to the designated institutional business official listed on the face page of the application or may be retrieved by the institution through its NIH eRA Commons account.

2. Administrative and National Policy Requirements

All NIH grant and cooperative agreement awards include the NIH Grants Policy Statement as part of the notice of grant award. For these terms of award, see the NIH Grants Policy Statement Part II: Terms and Conditions of NIH Grant Awards, Subpart A: General (http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_Part4.htm) and Part II Terms and Conditions of NIH Grant Awards, Subpart B: Terms and Conditions for Specific Types of Grants, Grantees, and Activities (http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_part9.htm).

The following Terms and Conditions will be incorporated into the award statement and will be provided to the Principal Investigator as well as to the appropriate institutional official, at the time of award.

3. Reporting

Awardees will be required to submit the PHS Non-Competing Grant Progress Report, Form 2590 annually (http://grants.nih.gov/grants/funding/2590/2590.htm) and financial statements as required in the NIH Grants Policy Statement.

Section VII. Agency Contacts

We encourage your inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants. Inquiries may fall into three areas: scientific/research, peer review, and financial or grants management issues:

1. Scientific/Research Contacts:

Glen H. Nuckolls, Ph.D.
Director, Muscle Disorders and Therapies Program
Muscle Biology Branch
National Institute of Arthritis and Musculoskeletal and Skin Diseases
One Democracy Plaza
6701 Democracy Boulevard, Suite 800
Bethesda, MD 20892-4872
Telephone: (301) 594-5128
Email: glen_nuckolls@nih.gov

Mary Lou Oster-Granite, Ph.D.
Chief, Mental Retardation and Developmental Disabilities Branch
National Institute of Child Health and Human Development
6100 Executive Boulevard
Room 4B09G, MSC 7510
Bethesda, MD 20892-7510
Telephone: (301) 496-1383
Fax: 301-496-3791
Email: granitem@mail.nih.gov

John Porter, Ph.D.
Program Director, Channels, Synapses, and Circuits
National Institute of Neurological Disorders and Stroke
6001 Executive Boulevard, Room 2142, MSC 9523
Bethesda, MD 20892-9523
Telephone: (301) 496-1917
FAX: (301) 402-1501
Email: porterjo@mail.nih.gov

Mary Frances Picciano, Ph.D.
Office of Dietary Supplements
National Institutes of Health
6100 Executive Blvd., Suite 3B01 MSC 7517
Bethesda, MD 20892-7517
Telephone: (301)-435-3608
Email: piccianm@od.nih.gov

2. Peer Review Contacts:

Not applicable

3. Financial or Grants Management Contacts:

Melinda Nelson
Grants Management Officer
National Institute of Arthritis and Musculoskeletal and Skin Diseases
One Democracy Plaza
6701 Democracy Boulevard, Suite 800
Bethesda, MD 20892-4872
Telephone: (301) 594-3535
FAX: (301) 480-5450
Email: nelsonm@mail.nih.gov

Chris Robey
Grants Management Officer
National Institute of Child Health and Human Development
6100 Executive Boulevard, Room 8A17, MSC 7510
Bethesda, MD 20892-7510
Telephone: (301) 435-6996
FAX: (301) 402-0915
Email: robeyj@mail.nih.gov

James Washington
Grants Management Officer
National Institute of Neurological Disorders and Stroke
6001 Executive Boulevard, Room 3290
Rockville, MD 20892
Telephone: (301) 496-9231
FAX: (301) 402-0219
Email: washingj@ninds.nih.gov

Section VIII. Other Information

Required Federal Citations

Use of Animals in Research:
Recipients of PHS support for activated involving live, vertebrate animals must comply with PHS Policy on Humane Care and Use of Laboratory Animals (http://grants.nih.gov/grants/olaw/references/PHSPolicyLabAnimals.pdf) as mandated by the Health Research Extension Act of 1985 (http://grants.nih.gov/grants/olaw/references/hrea1985.htm), and the USDA Animal Welfare Regulations (http://www.nal.usda.gov/awic/legislat/usdaleg1.htm) as applicable.

Human Subjects Protection:
Federal regulations (45CFR46) require that applications and proposals involving human subjects must be evaluated with reference to the risks to the subjects, the adequacy of protection against these risks, the potential benefits of the research to the subjects and others, and the importance of the knowledge gained or to be gained (http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm).

Data and Safety Monitoring Plan:
Data and safety monitoring is required for all types of clinical trials, including physiologic toxicity and dose-finding studies (phase I); efficacy studies (Phase II); efficacy, effectiveness and comparative trials (Phase III). Monitoring should be commensurate with risk. The establishment of data and safety monitoring boards (DSMBs) is required for multi-site clinical trials involving interventions that entail potential risks to the participants (NIH Policy for Data and Safety Monitoring, NIH Guide for Grants and Contracts, http://grants.nih.gov/grants/guide/notice-files/not98-084.html).

Sharing Research Data:
Investigators submitting an NIH application seeking $500,000 or more in direct costs in any single year are expected to include a plan for data sharing or state why this is not possible (http://grants.nih.gov/grants/policy/data_sharing).

Investigators should seek guidance from their institutions, on issues related to institutional policies and local IRB rules, as well as local, State and Federal laws and regulations, including the Privacy Rule. Reviewers will consider the data sharing plan but will not factor the plan into the determination of the scientific merit or the priority score.

Sharing of Model Organisms:
NIH is committed to support efforts that encourage sharing of important research resources including the sharing of model organisms for biomedical research (see http://grants.nih.gov/grants/policy/model_organism/index.htm). At the same time the NIH recognizes the rights of grantees and contractors to elect and retain title to subject inventions developed with Federal funding pursuant to the Bayh Dole Act (see the NIH Grants Policy Statement http://grants.nih.gov/grants/policy/nihgps_2003/index.htm). All investigators submitting an NIH application or contract proposal, beginning with the October 1, 2004 receipt date, are expected to include in the application/proposal a description of a specific plan for sharing and distributing unique model organism research resources generated using NIH funding or state why such sharing is restricted or not possible. This will permit other researchers to benefit from the resources developed with public funding. The inclusion of a model organism sharing plan is not subject to a cost threshold in any year and is expected to be included in all applications where the development of model organisms is anticipated.

Inclusion of Women And Minorities in Clinical Research:
It is the policy of the NIH that women and members of minority groups and their sub-populations must be included in all NIH-supported clinical research projects unless a clear and compelling justification is provided indicating that inclusion is inappropriate with respect to the health of the subjects or the purpose of the research. This policy results from the NIH Revitalization Act of 1993 (Section 492B of Public Law 103-43). All investigators proposing clinical research should read the "NIH Guidelines for Inclusion of Women and Minorities as Subjects in Clinical Research (http://grants.nih.gov/grants/guide/notice-files/NOT-OD-02-001.html); a complete copy of the updated Guidelines is available at http://grants.nih.gov/grants/funding/women_min/guidelines_amended_10_2001.htm. The amended policy incorporates: the use of an NIH definition of clinical research; updated racial and ethnic categories in compliance with the new OMB standards; clarification of language governing NIH-defined Phase III clinical trials consistent with the new PHS Form 398; and updated roles and responsibilities of NIH staff and the extramural community. The policy continues to require for all NIH-defined Phase III clinical trials that: a) all applications or proposals and/or protocols must provide a description of plans to conduct analyses, as appropriate, to address differences by sex/gender and/or racial/ethnic groups, including subgroups if applicable; and b) investigators must report annual accrual and progress in conducting analyses, as appropriate, by sex/gender and/or racial/ethnic group differences.

Inclusion of Children as Participants in Clinical Research:
The NIH maintains a policy that children (i.e., individuals under the age of 21) must be included in all clinical research, conducted or supported by the NIH, unless there are scientific and ethical reasons not to include them.

All investigators proposing research involving human subjects should read the "NIH Policy and Guidelines" on the inclusion of children as participants in research involving human subjects (http://grants.nih.gov/grants/funding/children/children.htm).

Required Education on the Protection of Human Subject Participants:
NIH policy requires education on the protection of human subject participants for all investigators submitting NIH applications for research involving human subjects and individuals designated as key personnel. The policy is available at http://grants.nih.gov/grants/guide/notice-files/NOT-OD-00-039.html.

Human Embryonic Stem Cells (hESC):
Criteria for federal funding of research on hESCs can be found at http://stemcells.nih.gov/index.asp and at http://grants.nih.gov/grants/guide/notice-files/NOT-OD-02-005.html. Only research using hESC lines that are registered in the NIH Human Embryonic Stem Cell Registry will be eligible for Federal funding (http://escr.nih.gov/). It is the responsibility of the applicant to provide in the project description and elsewhere in the application as appropriate, the official NIH identifier(s) for the hESC line(s)to be used in the proposed research. Applications that do not provide this information will be returned without review.

Public Access to Research Data through the Freedom of Information Act:
The Office of Management and Budget (OMB) Circular A-110 has been revised to provide public access to research data through the Freedom of Information Act (FOIA) under some circumstances. Data that are (1) first produced in a project that is supported in whole or in part with Federal funds and (2) cited publicly and officially by a Federal agency in support of an action that has the force and effect of law (i.e., a regulation) may be accessed through FOIA. It is important for applicants to understand the basic scope of this amendment. NIH has provided guidance at http://grants.nih.gov/grants/policy/a110/a110_guidance_dec1999.htm. Applicants may wish to place data collected under this PA in a public archive, which can provide protections for the data and manage the distribution for an indefinite period of time. If so, the application should include a description of the archiving plan in the study design and include information about this in the budget justification section of the application. In addition, applicants should think about how to structure informed consent statements and other human subjects procedures given the potential for wider use of data collected under this award.

Standards for Privacy of Individually Identifiable Health Information:
The Department of Health and Human Services (DHHS) issued final modification to the "Standards for Privacy of Individually Identifiable Health Information", the "Privacy Rule", on August 14, 2002 . The Privacy Rule is a federal regulation under the Health Insurance Portability and Accountability Act (HIPAA) of 1996 that governs the protection of individually identifiable health information, and is administered and enforced by the DHHS Office for Civil Rights (OCR).

Decisions about applicability and implementation of the Privacy Rule reside with the researcher and his/her institution. The OCR website (http://www.hhs.gov/ocr/) provides information on the Privacy Rule, including a complete Regulation Text and a set of decision tools on "Am I a covered entity?" Information on the impact of the HIPAA Privacy Rule on NIH processes involving the review, funding, and progress monitoring of grants, cooperative agreements, and research contracts can be found at http://grants.nih.gov/grants/guide/notice-files/NOT-OD-03-025.html.

URLs in NIH Grant Applications or Appendices:
All applications and proposals for NIH funding must be self-contained within specified page limitations. Unless otherwise specified in an NIH solicitation, Internet addresses (URLs) should not be used to provide information necessary to the review because reviewers are under no obligation to view the Internet sites. Furthermore, we caution reviewers that their anonymity may be compromised when they directly access an Internet site.

Healthy People 2010:
The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2010," a PHS-led national activity for setting priority areas. This PA is related to one or more of the priority areas. Potential applicants may obtain a copy of "Healthy People 2010" at http://www.health.gov/healthypeople.

Authority and Regulations:
This program is described in the Catalog of Federal Domestic Assistance at http://www.cfda.gov/ and is not subject to the intergovernmental review requirements of Executive Order 12372 or Health Systems Agency review. Awards are made under the authorization of Sections 301 and 405 of the Public Health Service Act as amended (42 USC 241 and 284) and under Federal Regulations 42 CFR 52 and 45 CFR Parts 74 and 92. All awards are subject to the terms and conditions, cost principles, and other considerations described in the NIH Grants Policy Statement. The NIH Grants Policy Statement can be found at http://grants.nih.gov/grants/policy/policy.htm.

The PHS strongly encourages all grant recipients to provide a smoke-free workplace and discourage the use of all tobacco products. In addition, Public Law 103-227, the Pro-Children Act of 1994, prohibits smoking in certain facilities (or in some cases, any portion of a facility) in which regular or routine education, library, day care, health care, or early childhood development services are provided to children. This is consistent with the PHS mission to protect and advance the physical and mental health of the American people.

Loan Repayment Programs:
NIH encourages applications for educational loan repayment from qualified health professionals who have made a commitment to pursue a research career involving clinical, pediatric, contraception, infertility, and health disparities related areas. The LRP is an important component of NIH's efforts to recruit and retain the next generation of researchers by providing the means for developing a research career unfettered by the burden of student loan debt. Note that an NIH grant is not required for eligibility and concurrent career award and LRP applications are encouraged. The periods of career award and LRP award may overlap providing the LRP recipient with the required commitment of time and effort, as LRP awardees must commit at least 50% of their time (at least 20 hours per week based on a 40 hour week) for two years to the research. For further information, please see: http://www.lrp.nih.gov/.

Weekly TOC for this Announcement
NIH Funding Opportunities and Notices

Department of Health and Human Services

National Institutes of Health (NIH)
9000 Rockville Pike
Bethesda, Maryland 20892